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ABSTRACT

Developed along with a tape-slide package, the guide covers evaluation of special educational programs. Robert McIntyre discusses evaluation for decision making; Victor Baldwin considers sources of help and how to use them; and Helmut Hofmann treats objectives as guidelines for action, data collection, and budget planning and evaluation. Wesley Meierhenry describes what and when to evaluate as well as reporting and dissemination; he also lists references on evaluation. (JD)

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PLANNING FOR THE EVALUATION OF SPECIAL EDUCATIONAL PROGRAMS

A RESOURCE GUIDE

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INTRODUCTION

Evaluation of educational programs has become one of the most critical concerns in all of education today. In spite of the efforts and resources which are being applied to produce new and innovative educational programs and activities, it is almost impossible to determine whether one is more effective, acceptable, and/or efficient than another because of the lack of adequate evaluation procedures.

Nowhere is the dilemna greater than in the field of special education. Although a great variety of programs and activities have been designed to improve learning opportunities for students in special education programs varying from the addition of an 8 mm film in a traditional classroom setting to practically all elements of instruction being different including new facilities especially designed to deal with the specific handicap, a teaching staff completely retrained as a team and instructional materials especially prepared for the program and the group of youngsters to be served. The above two examples suggest a range of instructional innovations from the simple addition of one variable to a multiplicity of variables each interacting with the other. Unfortunately, in neither case have we been in a position to report much useful information about either approach which would assist in determining if the innovation should be continued in the present location or whether it should be attempted in new situations.

The purpose of this Resource Guide is to provide assistance to teachers, project directors, administrators, state directors, and in fact, anyone who has the responsibility of making decisions about whether to initiate, promote, introduce, and/or judge a program for handicapped children. The Resource Guide attempts to dispel the notion that evaluation is something which is so complex and esoteric so that only researchers and evaluation specialists are capable of conducting it. Evaluation may or may not always include all the elements of research but even where it does, Charles F. Kettering once said that "Research is a high-hit word that scares a lot of people. It needn't...research is nothing but a state of mind--a friendly, welcoming attitude toward change."

It is the hope that those who use this Resource Guide will "change their minds" both in their view of what evaluation is all about as well as how to plan for and carry out evaluation from the simplest to the most complex educational innovations. Whether the authors were successful will be determined by those of you who use this Guide. We solicit your feedback about strengths and weaknesses, where it communicates and where it doesn't and where deletions or additions should be made. A major theme of the Resource Guide is that evaluation takes place in order that decision-making may be improved. Your comments will assist in decision-making about what future, if any, there should be to this initial effort.

Fortunately, the writers of this Guide have received already much more feedback than is usually the case with similar publications. The first formal evaluation of it occurred at San Francisco on May 13, 1969,

when a selected group of specialists from all types of programs and activities in special education reacted to a preliminary edition. Their comments led to both organizational as well as substantive changes. A second formal evaluation took place in connection with the State Directors of Special Education in a meeting on July 11, 1969, at Jackson, Mississippi. This evaluation, like the first, produced many helpful suggestions. In addition to these two formal evaluations, many other knowledgeable persons have submitted useful suggestions.

As Project Director, I wish to recognize the contributions of each member of the writing team. All were dedicated to the proposition that students, instruction, and education in general would all be served better if evaluation procedures could be improved. The fact that this Resource Guide was brought from an idea, through conceptualization, writing, field testing, and revision to this first edition in less than six months is testimony to the commitment and expertness of each member of the writing team.

The Project Director wishes to acknowledge the very great assistance and encouragement of a number of staff members of the Education for the Handicapped Branch of the U. S. Office of Education, including especially Tom Irvin, Chester Avery, and Frank Withrow.

Wesley C. Meierhenry, Project Director
University of Nebraska
July 30, 1969

Chapter I

EVALUATION FOR DECISION MAKING

If you don't know where you're going, you're likely to end up somewhere else.

As educators, we are finding that we have to evaluate and report on our programs in many different ways to different groups. We have always evaluated what we were doing, sometimes informally and without systematic plan. We have always reported to parents, principals, and other teachers. Now we find that boards of education, state legislatures, and agencies of the federal government are asking for reports on the effectiveness of our programs, particularly those which they fund. Although our basic process remains the same, we need to be aware of the factors which determine techniques of collecting and reporting information:

1) Determining what and when to evaluate
2) Developing objectives as guidelines for action
3) Collecting data
4) Relating budget plans to evaluation
5) Using consultants
6) Reporting and disseminating results

The purpose of this guide is to provide some directions for evaluating our programs in special education.

Evaluation is a word with many connotations (and at least a couple of meanings). Dictionaries define the verb "to evaluate" as determining worth. This meaning suggests to educators the scoring of tests, giving of grades, figuring percentages and various other exercises in arithmetic.

A second meaning includes the judgmental activity of placing a value. Valuing, as a part of evaluation, is not necessarily empirical, but rests on personal preferences and orientations. Both evaluating and valuing are involved in any attempt to see how we are doing in trying to educate children.

We may look at a particular program for a group of students and find that 65% of the kids are more than two years below national expectancies, for example. We may then decide that this is terrible and that we must do something about it.

Evaluation and the Teaching-Learning Process

Evaluation comes at the start of an educational process. When we meet with a new class we spend some time finding out who and where the children are. We may give tests, either standardized or our own. We may ask the pupils to do things--read, write, or recite. We then form an opinion about where to begin teaching. As we teach, we continue to collect information about the pupils' progress. If all goes well we may step up the pace or add extra aspects. If progress is slow we may go back and review looking for other ways to present the material. When we finish a unit we again evaluate in order to provide data about the child and about our teaching.

This process of observing and gathering data about students' behavior and progress toward specified objectives is used to formulate a course of action, whether we are teachers, state directors of special education, or U. S. O. E. officials.

Evaluation and Decision Making

In all cases the purpose of evaluation is to get data for making decisions. Too many educational decisions in the past have been based on

tradition or expert opinion. Many of us are involved in projects which, by definition, are innovative. We have no past experience upon which to lean. We need to make decisions: decisions about where to put children, how to distribute our energies and resources, in the priority of order, and whether the things we are doing are helping us reach the goals we have chosen. Our evaluation process ideally should be giving us the data needed for these decisions. Also we should be collecting only the kinds of data useful in decision making. The arduous task of collecting data which are not immediately useful to us has sometimes given evaluation a bad name and has caused some educators to feelthat data collection is divorced and separate from the real concerns of the schools.

Evaluation and Benefit to Children

The ultimate test of a program's effectiveness is the extent to which it has changed the behavior and capabilities of a child. Wherever possible, data concerning changes should be used for evaluation. The evaluation procedure should match the program's objectives* and where the program is designed to make specific changes in youngsters, these changes should be the basis for evaluation. For example, if we have established a program to increase the verbal production of children, we might evaluate it with an external test such as an Illinois Psycholinguistic sub-test or with an internal measure, such as recording the frequency and length of the child's contributions in class discussion. Where the project is designed to change some other element in the

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*It should be noted that this is a requirement under Title VI-A and the PL 89-313 amendment to Title I of the ESEA. Copies of section F on program and project design and evaluation from the Office of Education administrative manuals for these two programs are available from the Division of Services, Bureau of Education for the Handicapped, U. S. Office of Education, Washington, D. C. 20202.

instructional system--teachers, availability of aides, use of instructional technology, administrative procedures--the evaluation should focus on that particular element directly, and indirectly on the changes in pupils, if any. For example, if we have approached the goal of changing behavior and capabilities in children through providing in-service education to our teachers, we may wish to evaluate the effectiveness of this training before it is possible to observe changes in children. In this case teachers' increased knowledge can be evaluated. Have they increased verbalization in class? Look at their first week's plans. Are they allowing increased time for group discussion? Are room arrangements different from before and more likely to support interaction between students?

Children are the major, but not the only, consumers of our educational "product." Other elements also have a stake in education and can also provide legitimate data for evaluation. Programs may show their effectiveness in many ways: greater parent satisfaction in the changes in a school's pattern of special education referrals, in the development of special classes moving in closer interaction with other students, or even in greater community support.

Evaluation and Research

Evaluation and research can be considered a continuum with "pure" research near one end and the daily informal evaluation of on-going activities on the other. Most research and evaluation in education falls somewhere in the middle. Realizing this, let's compare the two extremes to better understand the range of processes.

First, pure research, and most applied research aims at results which can be applied to samples in another larger population. The researcher may collect data on a classroom of children but he is interested in saying something about all similar children. Therefore, the researcher is quite concerned about using a representative sample. The evaluator, on the other hand, is interested primarily in his group of students. He will collect data on all the children in his program and have no concern about adequacy of sample. If there are only ten blind children in his district's special program, changes in the behavior of these ten will be sufficient to help him evaluate his program. Other districts will just have to do their own evaluation of their own programs, although they may use his results in picking techniques which are likely to succeed.

Second, we are usually concerned with an existing complex program in which we cannot control all extraneous variables. As researchers, we might want to have uniform levels of teaching experience and training of our staff, narrow IQ ranges in our classes, and a stable population for the length of the study. However, as evaluators, we are satisfied to know how effective a program has been with these teachers (including Mrs. Smith, who quit in mid-year), in this district (where a school board member challenged one of our textbooks as too violent), and with these youngsters (including those who really shouldn't have been in the program). Rather than control all of these variables, we must aim for a more detailed description of them.

Although theory-based research and evaluation programs usually attempt to state specific hypotheses in advance, both must be alert to

the incidental or unexpected results. These frequently occur and may be more important than the expected results. A particular piece of programed instruction is found to be no better than a teacher but takes half the time. A certain perceptual training program improves a student's self-concept. Such are the unexpected twists which add spice to educational and scientific endeavors and keep observers of child behavior on their toes.

Special Aspects

Special educators face all of the evaluation problems common to their fellow teachers and can use almost all of the general techniques. They may be faced, however, with groups of children who show a great many differences amongst themselves. They may be using techniques of individualized instruction, or dealing with a very few children of a particular handicap. For these reasons, evaluation of programs in special education is less likely to use group data or sampling techniques, and is more likely to use detailed description and observation of individuals or small groups. This focus frequently necessitates the use of descriptive rather than inferential statistics, with an emphasis on the unique or "special" elements of the situation or an individual.

Evaluation of programs with these "special aspects" may seem a difficult task. Because of our emphasis on objectives as guidelines for action and on meaningful observation and description, evaluation is basically a matter of organization. As we deal with the organizational process of over-all evaluation development, we must define what and when to evaluate.

Chapter II

WHAT AND WHEN TO EVALUATE

The underlying principle in this resource guide is the focus upon the whole. One must take into account the totality of factors required to reach a certain objective or goal. Furthermore, it is the dynamic interrelations among these factors which finally produce the end product. As important as it is to keep in mind and be sensitive to the whole, it is obvious that there are parts which, in turn, have specifics.

Educational projects, large or small, will contain three distinct but interrelated stages characterized by these specific factors:

"Where are we? What do we have to work with? What do we want to change?"

Inputs, prior conditions, or antecedents. (OBJECTIVE$)

"How do we get there from here? How do we know we're moving?"

Processes, interactions, or transactions.

"Where are we going? What happened? What skills were changed?"

Outputs, outcomes, or products. (IMPACT)

The General Process

For example, let us consider the teacher who is preparing to teach safety skills in driving to mentally retarded teenagers. It is evident that the desired end product (the objective) is the mastering of subject matter by the students. He will convert these objectives into demonstrations of skills, verbal tests, or an application of these skills in simulated situations. The outcomes, products, or outputs will thus be derived.

Before the teacher begins to teach, he will want some idea of what each student knows. He may have recorded information on the prior knowledge of the students or he may give a pre-test. The teacher will be aware of some of his own strengths and weaknesses in the subject. He will investigate the school's equipment and materials which are available for teaching this subject. What films and teaching aids are available? Does the school have a driving simulator? Do the local police or State Highway Department have demonstrations of driver safety? All of these factors represent prior conditions, antecedents, or input conditions and factors to which attention must be given before the instruction is carried out.

After the teacher considers and identifies the above factors and perhaps others, he then proceeds to plan and execute the learning activities. At this point, he considers how the students will be expected to interact with the teacher and with the various materials which he will utilize. The physical arrangements and setting will be recognized as a part of the procedure. Group and/or individual work will be planned and undertaken. The involvement of other teachers, supervisors and administrators should be considered. All of these processes, interactions or transactions describe what will take place during this stage or phase.

The teacher, having thought these various aspects of how, when, and where these situations and interrelations will occur, will be prepared to gather data and information so that they will know how well the students did as a result of their planning. As soon as the instruction is undertaken, data will be generated which will provide feedback and

make modifications in the present plans possible or make it possible to help another teacher reach essentially the same objective.

Finally, even though the teacher has certain final objectives in mind, he will need to develop procedures for gathering information and data as to how well these objectives were met.

Meager has identified essentially the same points in the first paragraph of Chapter I of his book entitled Preparing Instructional Objectives:

> Once an instructor decides he will teach his students something, several kinds of activity are necessary on his part if he is to succeed. He must first decide upon the goals (output) he intends to reach at the end of his course or program. He must then select procedures, content and methods (inputs) that are relevant to the objectives; cause the student to interact (processes) with appropriate subject matter in accordance with principles of learning; and, finally, measure or evaluate the student's performance according to the objectives or goals originally selected.

The same plan, as identified above, should be applied to the evaluation of a special education project. After initial decisions are made and the general context in which the new program will operate is determined, the objectives need to be identified.

The manner of dividing the total process of evaluation into manageable parts or stages would likely begin with what teachers also would undertake first, namely, to identify the objectives or outputs they were attempting to achieve.

Outcomes, Products, or Outputs

The end results or the impact of the study should be identified. These will include such outcomes, products or outputs as those pertaining to the students, the teacher, the instructional material or the school

in general. In some cases evaluation of immediate results will be made, in other instances long range or permanent changes will be judged. Such areas as the following might be included when considering our safety project for mentally retarded pupils.

I. Pupil

a. Verbal ability
b. Interests
c. Motor skills
d. Use of and/or preparation of materials
e. Self-motivation and direction

II. Home

a. Changes in parental attitudes
b. Impact on subjects
c. Impact on siblings
d. Changes in activities or habits of subject

III. School

a. Changes in attitudes of teachers and administrators
b. Use of special facilities, i.e., driving simulations
c. Staff mobility
d. Future plans and developments
e. Teacher diaries or counts
f. Effects on non-participating students and teachers
g. Changes in financial support

Prior Conditions, Antecedents or Inputs

An attempt should be made to identify and gather all kinds of useful information before the project gets underway. This information might include data about the pupils, the parents, the teacher and the setting.

After the desired outputs or end products are determined it seems natural to consider what kinds of inputs are necessary to achieve these products. An understanding of prior conditions may establish bench marks and thus provide clear evidence of change. The following are suggestive

of what needs to be considered after objectives and outputs are established but before the project gets underway:

I. The Pupil

a. Sex
b. Age
c. Siblings
d. Visual tests
e. Hearing tests
f. Motor ability
g. Interest inventories
h. Emotional stability
i. Relations with peer group

II. The Parents

a. Marital status
b. Socio-economic level
c. Natural origin
d. Age
e. Educational level
f. Place of residence

III. The Teacher

a. Educational background
b. Evidence of recent continuing education
c. Age
d. Sex
e. Previous employment record
f. Relations to colleagues
g. History of adoption of new techniques or procedures

IV The Setting

a. Physical arrangement of classroom
b. Availability of audiovisual equipment and material
c. Type of material being used, copyright date, etc.
d. Single or multiple text and materials
e. Light control and acoustics
f. Equipment for individual, small group or large group use
g. Preparation of special materials or equipment

Processes, Interactions or Transactions

One of the major differences with traditional research procedures and the one recommended in this guide is the recognition given to the

interaction among pupils, teachers, administrators, instructional materials, instructional patterns, ancillary personnel, specialists, media and any other process while the project is underway. The interactions of the various forces which need study and assessment as well as what comes out of or goes into the project is considered imperative by the co-authors of this guide. Some of the areas to be considered in advance for investigation before the project begins are as follows:

I. Teaching activities
II. Administrative activities
III. Student activities and responses
IV. Activities of specialists
V. Use and flow of instructional materials
VI. Classroom organization and interaction

The impact of this project could be measured by the number of teenagers obtaining driver licenses, the change in attitudes about retarded drivers and/or increased local support for additional programs of this kind.

Conclusion

A function of over-all planning is to provide a continuous flow of information. These data may require changes in procedures. When unexpected events occur, the monitoring process should be sufficiently sensitive to suggest new objectives and thus new data gathering. Therefore, the various initial aspects of the project should be subject to change depending on new, modified or selected objectives, outputs, processes or inputs. It is a dynamic and changing situation which we

hope to assess, not a static or isolated activity. The over-all model is shown in Figure I.

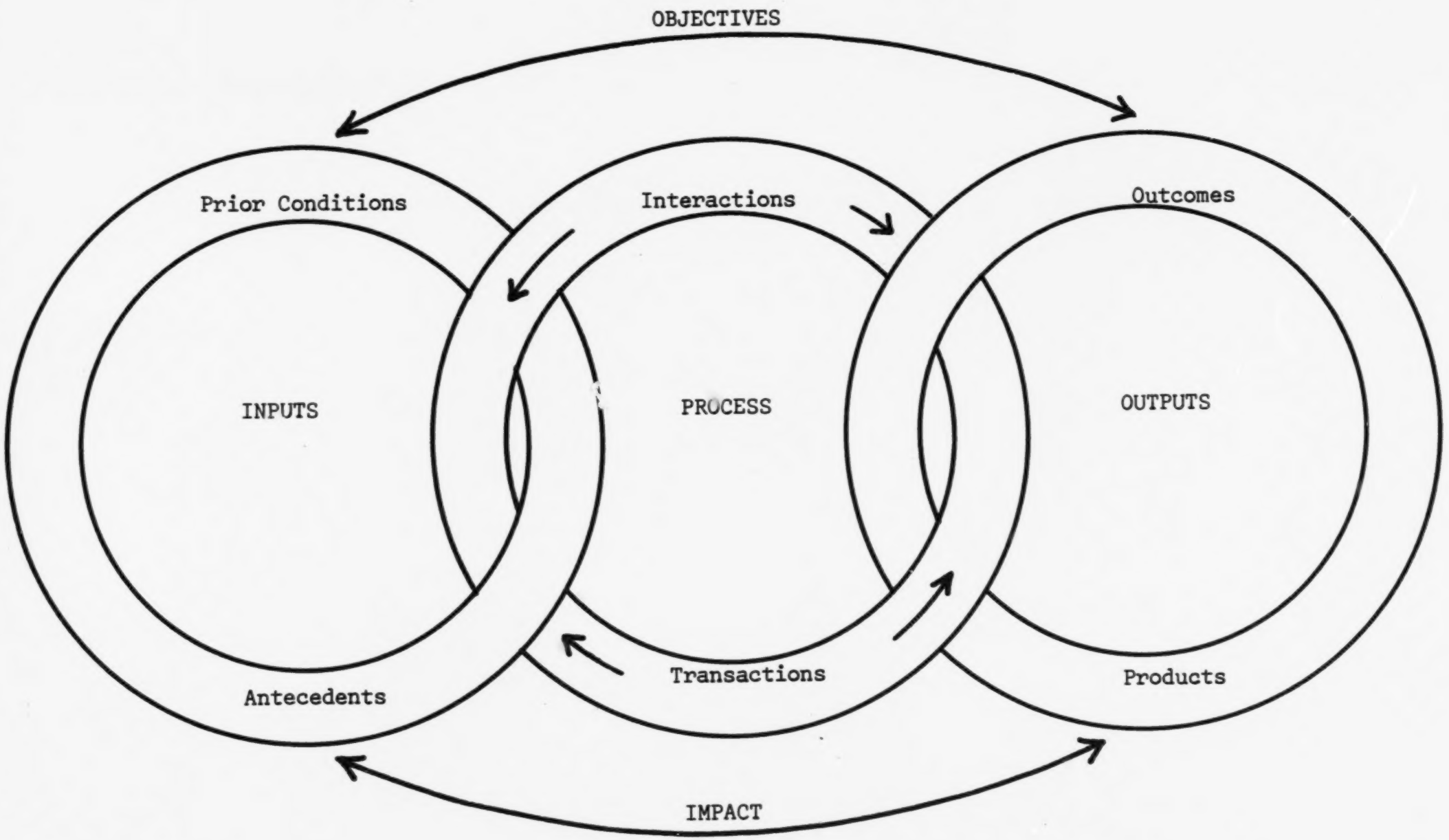
A risk in breaking down a complicated whole into its parts is that the tree may blind one to the forest. It is the interrelations of the parts which produce the end product or output. However, it must be kept in mind that one is dealing with a system as discussed in the opening chapter. Thus, the evaluator must keep a sharp and focused view on the individual "bits and pieces" but with frequent scanning and judging of the changing, over-all picture. Though the evaluator must be aware of the "parts" of the project, he must keep in mind that his overall objectives should furnish him with guidelines for action. Thus, the development of objectives is of great significance in giving direction to the evaluation process and suggestions are made regarding such activities in the next chapter.

"If telling were the same thing as teaching, we'd all be so smart we could hardly stand it."

Robert Mager

Figure I

THREE STAGE MODEL



Chapter III

OBJECTIVES - GUIDELINES FOR ACTION

Motto: *"The secret of success is clarity of purpose."*. . .

Benjamin Disraeli

The first step in the evaluative process is accomplished when we determine the scope and direction of our educational plans. Where do we want to go? What do we want to accomplish? What purposes do we pursue? What goals do we have in mind? Questions like these lead to answers which form the basis for a statement of educational objectives. We could say that objectives are outgrowths of our thinking about the nature and purpose of our intended actions. Thus, they become guidelines for our programs and targets at which we aim our efforts. These guidelines must be properly evaluated as the program develops in order to help us achieve that "clarity of purpose" which Disraeli called the secret of success.

In order to show (1) how to establish objectives and (2) how to develop these objectives in (a) behavioral terms and, (b) in exploratory terms, and also to show how the evaluative process is involved in each step, let us consider the following practical example by which a set of objectives for a program emerged.

Establishing the Initial Objective

The first grade teachers in a school district became concerned about a large number of children with speech difficulties, which undoubtedly

originated in pre-school years. After discussions with administrators and board members, the decision was made to attempt a change in this situation. A group of their colleagues, a speech therapist and an administrator checked on published experiences of others ("They reviewed the literature."); they assessed the available resources in the district and the potential aid from other funds; and on the basis of these steps two objectives were developed for a pre-school program with speech handicapped children.

1. They decided that it was necessary to locate these children and to assess the nature of their defects. Their objective read: "In this program we shall screen children with speech difficulties in kindergarten and nursery schools and diagnose the nature of their handicaps."

2. Since a diagnosis without therapy would not produce desired improvements in the speech condition of these children, the group proposed that a systematic training program be initiated in which parents, kindergarten and nursery school teachers would be assisted by a speech therapist. Their second objective read: "A training program will be initiated for all speech ahndicapped children who have been diagnosed in the pre-school screening procedures. Parents and teachers will be assisted by a speech therapist in this training."

Developing Behavioral Objectives

As the planning continued a university consultant suggested that the two initial objectives should be expanded and refined. He emphasized that, whenever possible, these objectives should be stated in "behavioral terms." His suggestion reflected a recent trend in evaluation procedures. When descriptive behavioral terms are spelled out carefully, progress and improvements in any dimension of learning or behavior can be measured or assessed against the specific statement of the objective. Following the consultant's advice, the project planning group expanded their two

general objectives into several descriptive behavioral statements.

They wrote:

1. Screening of all pre-school children will lead to early diagnosis of:
   a. children with function articulatory defects.
   b. children with delayed speech patterns.
   c. children with stuttering symptoms.
   d. children with combinations of the above conditions.

2. Gearing the proposed training program to the four listed categories of diagnosed children, the planning group arrived at four expanded objectives:
   a. the training program will reduce articulatory defects by 50% after one year of systematic treatment.
   b. the training program will increase interest in oral expression in all cases of delayed speech by measurable amounts.
   c. the training program will initiate rhythmic exercises for all stuttering children and reduce their level of anxiety.
   d. the training program will develop sets of combined exercises for all children with multiple speech-handicaps in order to reduce articulatory defects, increase interest in vocal expression and produce higher levels of self-confidence.

Further refinement of these objectives was suggested as the program evolved. In regard to objective 2a, several behavioral sub-objectives were finally formulated:

2a1 all children who substitute a th-sound for an s-sound will show improvement in 30-50% of examples on a pre-test/post-test audio-tape measure.

2a2 all children who omit initial sounds will show similar improvements on pre-test/post-test audio-tape measure.

2a3 all children who distort endings of words will show improvement in speaking of correct endings at a 15-30% measured rate on a pre-test/post-test audio tape.

At this point in the process the planning group concluded that:

Objectives are statements of specific behaviors, which we intend to achieve through an education program.

Plans for training and education should thus be designed for the achievements of these behaviors. This postulate imposes a limiting

dimension on the execution of a plan: The specifically stated behavioral objectives guide the selection of activities, methods and media and prevent us from dispersing energies and efforts on peripheral outcomes.

Developing Exploratory Objectives

The planning group also suggested that:

Objectives should contain "exploratory" possibilities.

When one conceives of evaluation as a continuous and self-correcting system in which all aspects of a proposed program are under constant observation by those who conduct it, then objectives also become subject to necessary changes when:

1. we recognize that other favorable objectives could emerge in the evaluation process.
2. we note circumstances which prevent us from achieving the stated behaviors. (Evaluation can accept failure, provided you change your intentions!)

Two examples will illustrate these conditions:

A teacher of trainable retarded children had written two objectives for a program of improvement of eating habits for some children in her group.

1. The number of undesirable interferences with the eating of other children will be reduced in half at the end of a six-week training program.

2. The children will learn 15 new names of foods and will be able to name these foods correctly at a 90% level when presentation of these foods is made at the end of the training period.

During the third week of her program the teacher notices that in addition to the desired reduction, several children began to pay ostensibly more attention to their own eating habits. This observation prompted the teacher to add subsequent objectives to her program which she stated in these terms:

1. Fewer spilling incidents
2. Better manipulation of eating tools
3. Reduced need for supervision of children at mealtime

In regard to her second objective the teacher noticed early that she had overestimated the students' capacities for the learning of 15 food names. Accordingly, she reduced the criterion level of her second objective from 15 to 10 new names.

Objectives: Realistic and Relevant

This last example illustrates two additional dimensions which the writer of objectives must keep in mind:

1. Objectives must be realistic and
2. Objectives must be relevant.

Both of these requirements are of great importance to anyone who plans to design an educational program. In order to estimate how realistic a given set of objectives are, the director of a planned program might ask:

> Do I grant enough time for the accomplishment of my objectives?
>
> Are my resources (personnel, materials, funds) sufficient for the execution of my planned program?
>
> Do experiences in other programs suggest a good probability of success for the achievement of my objectives?
>
> One could say: If you shoot for the moon, make sure you have a big enough gun and aim it right! Or, to relate this statement to the realm of educational evaluation: Whenever educational objectives are to be met successfully they must be in line with the reality of circumstances in which they occur.

Last, but not least, when assessing the relevance of educational objectives, a director of a program is well advised to weigh carefully how his proposed special program fits into the total efforts which a group, a school, a district, or a state plan to expend. Additional

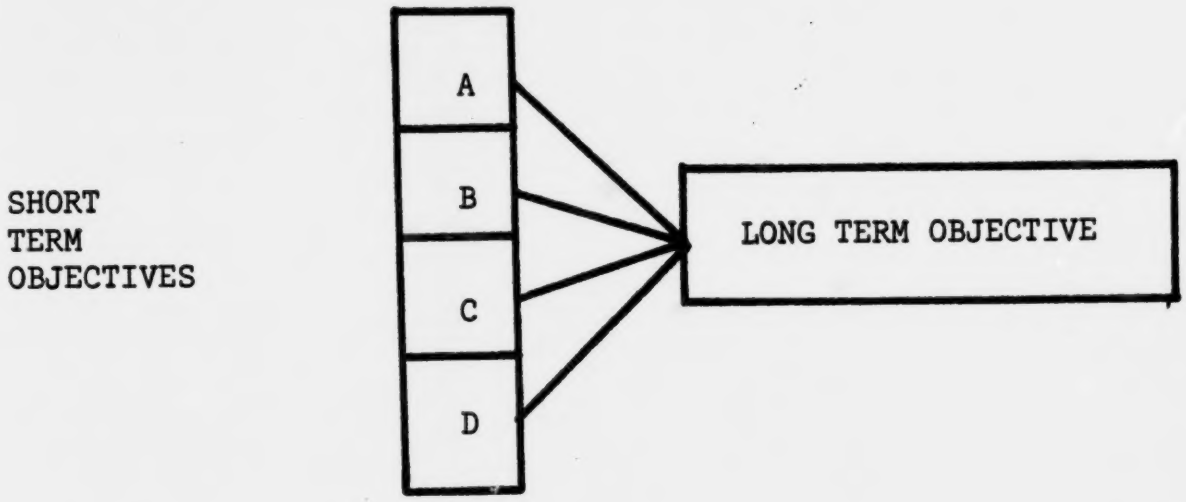
consideration should be rendered to the long-range effects of a program. It is more sensible to plan a sequence of short-term objectives which fit into the framework of general objectives than to initiate incoherent and non-integrated activities.

As can be seen in Figure 2, short-term objectives, which all contribute to a long-term objective, are "parts" of the "whole." Again it should be stressed that objectives are outgrowths of our thinking about the nature and purpose of our intended actions.

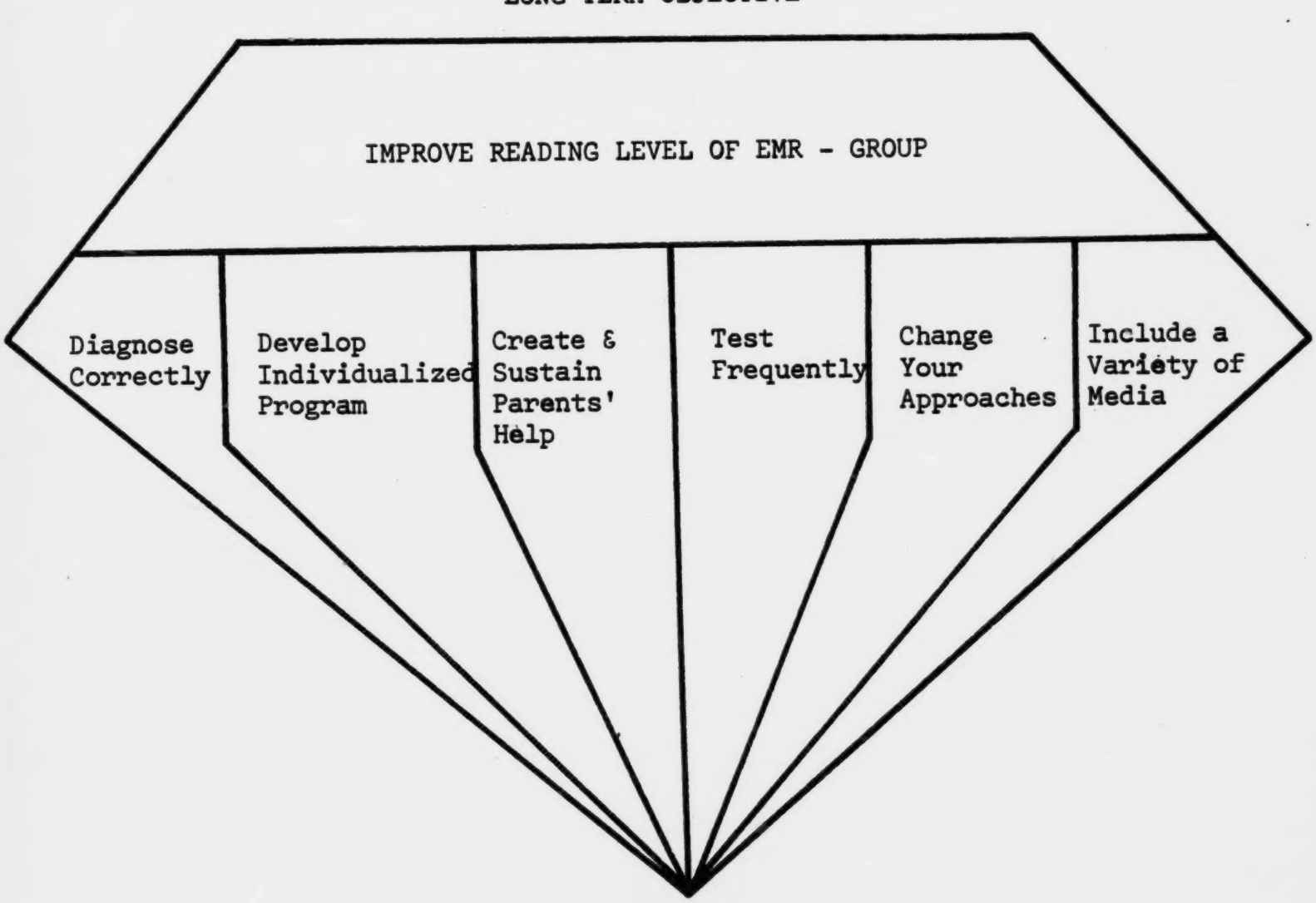
In order to determine if the objectives have been reached it is necessary to generate data which are related to the objectives. It does no good to identify and collect information on how well a deaf child learns to read lips if our primary objective is to enable the child to relate more positively to his peer group.

Figure 2

SHORT AND LONG TERM OBJECTIVES



LONG TERM OBJECTIVE



Chapter IV

DATA COLLECTION

The single most important question which confronts any teacher or project director, therefore, is as follows: How do we know whether our plan has succeeded? What is the evidence by which we support our feelings that a program helped children? Can we be sure that we accomplished our objectives?

The process by which we collect evidence or the medium of proof is called data collection. It is a process in which all men are constantly engaged as they evaluate their actions or the actions of others in daily living. But this everyday data collection is casual, often not planned and rarely complete. However, data collection for the evaluation of any project is a systematic, orderly and well planned process.

Objectives Determine Methods

From the discussion thus far, one necessary condition emerges: The choice of objectives determines the method of data collection. We must look for evidence which will furnish us with some proof about the degree of accomplishments of our objectives. Thus, we should collect only such data as are sensibly related to our objectives. To be specific: If my objective is the improvement of physical development, my data should give evidence on the dimensions in which this development occurred. In such a project it would be senseless to collect information on mental growth as measured by an intelligence test. If, on the other

hand, my objective is an increase of children's abilities to discriminate, to generalize and deduce, then an intelligence test covering these areas of mental progress is entirely justified.

There are simple methods of data collection which every teacher can perform. However, one misconception should be dispensed with before we begin. All too often teachers shy away from data collection because they confuse this process with the concept of statistics. They forget that statistics are only a mathematical tool to organize data collection. Sophisticated statistical treatment is not the sole measure of a good evaluation. Its techniques, however, can be most helpful when we organize our data collections. A teacher who does not know the techniques of chi-square, or analysis of variance can still produce a respectable evaluation. But he must relate the collection of data to his objectives and he must use care and prudence in his observations and the recording of his findings. Most methods for the collection of data are simple as the following examples will show.

Example I

Objective: To improve personal grooming and care for clothing in a group of trainable, retarded, adolescent girls.

The teacher for this project chose two methods of data collection: (1) photography and (2) the judgment of mothers and of training aides at the center.

Method: The first method consisted of taking three different photographs: one at the beginning, one in the middle and one at the end of the training program. The pictures were compared by independent judges (her fellow teachers in the building). Hair grooming and outward appearance were the criteria which had been selected for improvement. Care for clothing was judged by a simple checklist

which is shown below. These checklists were filled out by the mothers and the aides for a period of six weeks and the results were tabulated:

Name: Mary Jane	Monday		Tuesday		Wednesday		Thursday		Friday		Totals	
	C	S	C	S	C	S	C	S	C	S		
Morning	x		x		x		x		x		5	0
Lunch		x		x	x		x		x		3	2
Afternoon		x		x		x		x	x		1	4

C--Clean S--Soiled

The results were compared with a control group which did not receive training in these two aspects of personal care and the teacher was able to demonstrate that her group had made steady progress in the achievement of the stated objectives.

Method: Frequency counts of observed behaviors, judgment of photographs on specified criteria and comparison of two groups with different treatment procedures.

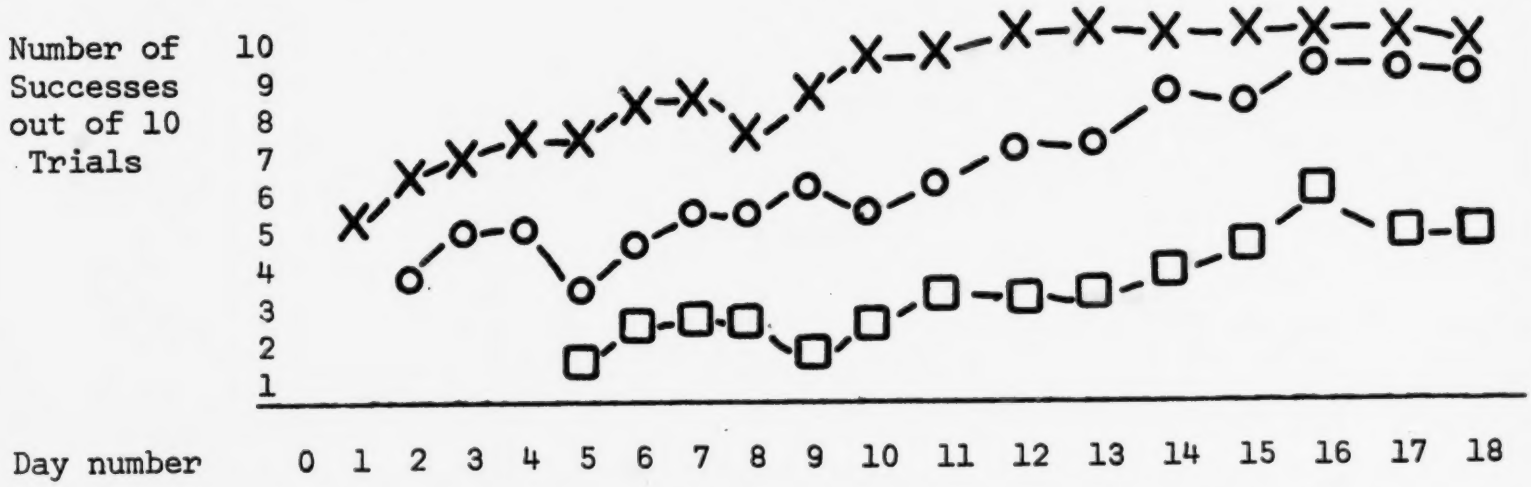
Example II

Objective: To correct misarticulation of V, th, and all sibilants in a group of diagnosed children with such handicaps.

After pre-testing, a chart was established on which the progress of each child was measured. The chart listed the following specific objectives:

1. Articulation of V ----------
2. Auditory discrimination of "th"_____
3. Ability to use "th" in words and speech .....

Ten trials with selected words containing V and th-sounds were conducted for eighteen successive days. Individual therapy preceded each evaluation.



In addition, the child's performance was taped on a tape recorder and the recordings were compared with the results on the charts.

Methods used: Graphic illustration of individual performance record and taped verification of improvement.

Example III

Objective: To reduce undesirable behaviors in a group of emotionally disturbed children.

This teacher combined her own frequency counts of the children's undesirable behaviors with checklist of desirable behaviors the children kept for themselves. In addition, we used a Sony video tape recorder to film three specified situations at frequent intervals. These situations were viewed and discussed by the children and a group chart was then developed by the children.

Example of Group Chart:

Activity: Entering the Room	YES	NO
Most children went to their seats		
Most children began to study their assignments		
Most children paid attention to teacher's words		

Method: Cumulative frequency counts of undesirable behavior on individual checklists (teacher observation). Cumulative frequency counts of desirable behavior on individual checklists (child self-observation). Filming of special scenes, discussion of video tapes, and group adjudgment of observed behaviors.

In this project frequency counts of observed behaviors were collected over a period of a year. Significant trends of improvement in the direction of stated objectives were observed. The teacher also noted that the group charts kept by the children had a significant reinforcement effect on the children's behavior.

Example IV

Objective: To acquaint mentally retarded children with industries in the community and to measure increased knowledge with appropriate instruments.

Several field trips were arranged to carefully selected industries in the community. The teacher devised tests of twenty items from each field trip. Results of the tests taken after the field tests were compared to pre-test results. Test One consisted of the following items:

1) Five taped items in which sounds in an auto body shop were portrayed.

2) Five pictures (slides) taken in the shop visited. The children had to identify the situation of work portrayed.

3) Five drawings of tools used in the shops. The children had to identify the tools by name.

4) Five incomplete sentences which were read to the children and called for verbal completion, i.e., Bent fenders are smoothed with a (hammer), or When the fender is finished the sprays it with (paint).

Method: Comparison of successful item completion on a teacher-made test designed to measure differences in pre- and post-test knowledge of local industries by mentally retarded children.

Example V

Objective: To expand vocabulary of children with severe speech handicaps. Ten activities were selected in which a puppet theatre was used to exemplify the use of 100 target words. No children with hearing defects were included in the sample. The ten situations portrayed scenes in:

a grocery store	a bakery
a fire station	a zoo
a kitchen	a luandry
a post office	a barbershop
a gasoline station	a clothing store

For each situation ten target words were selected for which the teacher developed a simple picture-identification test. Pre- and post-test results were compared and the t-test for significance of differences was applied. An example of one situation is portrayed below. (Each target word was presented at ten different occasions in order to measure lasting effects).

Example: Grocery Store

Target Word: BUTTER

CORRECT IDENTIFICATION

Date	Yes	No
2-5	x	
2-8	x	
2-11	x	
2-14	x	
2-17		x
2-20	x	
2-23	x	
2-26	x	
2-29	x	

Method: Cumulative frequency of correct identification of selected target words. Pre- and post-test comparison. T-test for statistic significance of recorded differences.

In addition to these examples, other appropriate methods of data collection can be employed. Certainly the use of standardized tests should be recommended. However, we want to emphasize that very few good and reliable standardized tests for the measurement of handicapped children are presently available. Questionnaires and opinionaires can also be most helpful in the collection of significant data. If progress is to be judged by parents or community groups, these latter instruments usually provide for economic, and within limits, reliable sources of information.

Last but not least, a list of data collection instruments must recognize the contributions which well organized diaries or case studies can render. When longitudinal effects of a treatment are to be assessed, continuous record keeping with these devices can provide exceptionally valid data for the evaluation of a project. A word of caution should be expressed: It makes little sense to write books on behaviors which are not relevant to objectives. The collected data must be meaningful for the specific project. It must also be assembled in a logical manner so that the significant aspects of the project may be assessed and communicated.

Because the amount of money which is available will determine the size and nature of the project being planned, attention is given to it next. Since the amount of financial resources is seldom if ever adequate, the use of limited resources to achieve the objectives should

be considered by those who evaluate proposals for funding as well as those who direct projects which are funded. For these reasons the budget is considered next as it relates to evaluation.

Chapter V

BUDGET PLANNING AND EVALUATION

All planning and programming of educational activities must be related eventually to the systematic management of financial affairs which we commonly describe with the terms budget and budgeting.

In the context of this guide we are primarily concerned with two questions:

1) How does budget planning relate to the total process of evaluation?

2) How do evaluators look at the budget section as part of a total educational program?

The wording of the questions suggests desired limits in this section of the guide: It is <u>not</u> our intention to present a detailed "How to do" prescription on budget-making. This service is adequately performed by the manuals and guidelines of federal programs, and careful reading and study will enable the writers of proposals to compose the documents as specified. Here we propose to state only the relationship of budget to the process of evaluation.

Budget Planning and the Total Process of Evaluation

The writer of a proposal or the planner of an educational program may well be advised to raise and answer a set of questions which can illustrate and clarify the relationship of dollars (budget) to the input of the project. For example:

1) How much personnel service will be needed (input factors) in order to achieve a workable student-teacher ratio?

2) If eighty percent of projected funds are put into this program effort, will there still be sufficient funds for the purchase of necessary equipment?

3) Can favorable cost-result ratio be achieved if most of the available resources in personnel-equipment-expertise, etc. is allocated?

While this set of questions illustrates possible effects of budget on planning, other questions might point to the necessity of alternative planning in the budgeting process.

1) What will happen if the project can only be funded on an eighty percent level?

2) What local resources can be mobilized in order to augment budget and continue with programs after federal support will cease?

3) Has the planning considered all available services of libraries, IMS's or other local, state or federal agencies to reduce budget costs?

4) Has information from similar projects been used in order to obtain maximum return from dollar investment on the basis of previous experiences?

In summary, all budget planning must contain a careful assessment of the probably effect dollar allocations will have on existing conditions (input). It must further consider what interaction of factors will be accomplished (process) and last but not least, it must estimate as accurately as possible what effect dollar inputs will produce in terms of accountable results (outputs). The intimate relationship of these considerations to the process of evaluation is self-evident: Budget planning represents projected financial record of program activites. It is the very purpose of evaluation to assess the outcome of these activities against postulated goals and hence by inference to measure the effect which dollars (as a major factor of input) produce in the program.

Evaluators and the Program Budget

Nobody can precisely predict how a given panel might specifically evaluate a proposed budget. However, the overriding concerns for budget

evaluation can be postulated with the three terms: Efficiency - economy - effectiveness.

A budget contributes to efficiency if the projected expenses facilitate process interaction i.e.when monies are available for the right effect at the right time and in sufficient quantity to bring about the desired changes.

A budget contributes to the economy of the project by assuring maximum effect with minimum outlay and by having clearly established priority allocations. Economy is most easily assessed when long-range program planning shows the projected outlay for a number of years, with each year logically and financially related to the total program and the total expense.

A budget contributes to effectiveness if available sums are carefully assessed at points of decision.

In summary, evaluation and budgeting can interact to produce more effective project development. Budget planning relates directly to the *output, input and interaction* phases of the total process of evaluation. A budget which contributes to efficiency, economy and effectiveness can, in turn, be meaningfully assessed by project evaluators.

Chapter VI

HELP AND HOW TO USE IT

In most projects those who conceive and develop them will be able to develop the appropriate evaluation procedures. It is hoped that this guide will be helpful. In addition, the references found in the Appendix should be useful in providing further information on a variety of aspects of evaluation.

For those who feel the need to use consultants there are two main ways in which such consultants or experts can be utilized to help strengthen your programs: at the individual project level and at the state department level. The last section will deal with resources that are available and how they might be of help to your individual projects.

Project Consultants

A project consultant should be someone in the local area who knows something about the type of child or treatment approach proposed. You should try to get him involved at the earliest possible stages in your project so that he can make suggestions and give constructive criticisms on basic ideas. Good consultants, like other specialized personnel, should be compensated in accordance with their contributions and can be included as a item in the budget. The following is a list of duties which might be expected from a consultant:

1. Review previous findings. A consultant should be able to provide you with information concerning similar projects, what the problems were and make suggestions about what needs to be done.

2. Help plan objectives. The chances are you will already have a set of objectives. A good behaviorally oriented consultant can help you pinpoint your objectives and spell them out clearly, which in turn should make your teaching and evaluation plans easier.

3. Provide resources. This person should be able to provide up-to-date information concerning the best instructional materials available and point out evaluation and reading materials that will be helpful.

4. Help plan methodology. If the consultant is chosen wisely, he should have information concerning the teaching or treatment approach to be used. He can help with the many subtleties of programming and procedure to achieve the objectives.

5. Help with design. Although Title VI Projects are not intended to be rigorous research efforts, it is only fitting that those who are spending money on the project will be interested in the effectiveness of the program. The expert should be able to indicate appropriate methods of assessment that will allow the making of clear-cut statements concerning the effect of the program on the intended subjects.

6. Assist in recording of findings. The consultant should be able to assist in the systematic recording and assessment of findings while the project is being conducted about the progress of students toward the specified objectives.

7. Testing. It is possible that a specialized instrument has been chosen to measure the effectiveness of the program. (This is certainly not a requirement but if the project seems to demand it the consultant may be able to advise about instruments which do not require such sophisticated skills. The consultant could serve himself as an examiner where outside testers are required)

8. Analyze data. It may be desired to have the consultant organize and analyze the data that have been collected and put it in some general form that can be easily reported. This is especially true if the specialist was responsible for the testing.

9. Help write the final report. Depending upon the amount of involvement that this person has had with the project, he might be quite helpful in assisting in writing an orderly final report.

The preceding list of suggestions is just that--suggestions. One may use all, or none, of the services indicated. If one has adequate staff to provide all of the functions mentioned above a consultant need not be employed. If, however, a staff is harried and overworked already, a consultant may be exactly what is needed.

State Consultants

A distinction has been made between state consultants and the project consultants. The basic purpose of a state consultant is to provide those state departments of education, who desire such assistance, with a third-party evaluator concerned with the procedures and evaluation of all programs. A project consultant usually works with only a single project. These two types of consultants should probably be different persons. If the state consultants also provide detailed service to individual projects, then the problem of conflict of interest arises.

The following is a list of suggestions of how third-party evaluators, acting as state consultants, should be able to provide services to state departments:

1. Advisors to selection committee. When the state departments gather their forces together to review Title VI proposals, it would seem reasonable to have the state consultants on board at that time to help in the selection process.

2. Meet with directors. The directors of approved projects should meet at a central location and individually spend at least an hour with the state consultants. At this time the projects are reviewed in detail and the final objectives and evaluation procedures can be pinpointed and agreed upon.

3. Formulate a state evaluation plan. It has been found most helpful (Oregon Title VI Impact Study) if the state consultant team write a short, follow-up letter to each of the directors. It should re-state what was agreed upon in terms of evaluation procedures and in what form the data will be reported. This will provide simplified guidelines which can be easily referred to and will allow both parties to know what is expected.

4. Visit projects. State consultants should make at least one visit to each of the projects after they have been underway for a short time. The purpose of these visits is twofold: a) It provides an opportunity to take a first-hand look at the projects and to insure that communication concerning evaluation procedures is clear; and b) It should provide a degree of flexibility for the project directors. If some of of the evaluation procedures are now inappropriate, new

evaluation procedures that the project can effectively accomplish should be mutually developed. These then become the new source of data for evaluating the project. For example, perhaps original objectives were to measure language on the ITPA. It is found at the beginning of the project that the test is too difficult or that a qualified administraor of the test cannot be found. Then, another measure of less difficulty like the Peabody Picture Vocabulary Test might have to be substituted.

5. Collect all data. On completion of the project the various project directors should send all of their data from the evaluation procedures directly to state consultants. It is hoped that at this point all project directors can keep their data as simple and clean as possible.

6. Analyze data. If there are any statistical manipulations that have to be made, the state consultant could provide this service. It is generally hoped that projects would not require complex statistical formulas; however, the ability to manipulate these should be taken into account when the state consultants are selected. If evaluation procedures can be kept simple and clear-cut, then the data analysis becomes a less difficult job. (Graphs and charts are a big help.)

7. Write the over-all report. Each individualized project should be summarized by the outside evaluators and statements made concerning strengths and weaknesses, successes and failures, of each of the programs. This final report should be sent to the state department for its stamp of approval.

The basic model presented in the above section is very similar to the one used in Oregon on their Title VI Impact Study. (See appendix for further information as to how to obtain this report.) There are still some questions that should be answered. For example. what kinds of people do you select as consultants? One of the first qualifications should be that they know something about education and have been involved with children and teachers at a project level. They should be sensitive to the qualities of evaluation that are spelled out elsewhere in this document. They must realize that projects are usually not rigorous experimental research projects; however, they must keep in mind that the effectiveness of the various methodologies used in the individual

projects are yet to be determined. They should probably not be members of the state department staff, but rather brought in from a university, college, or research setting that would typically have such a person on its staff.

Resources of Materials and Information

In the area of special education there are two main resources which provide materials and information relating to educational programs for handicapped children. The first resource is the fourteen Instructional Materials Centers for handicapped children which have been established in cooperation with the Division of Research, Bureau of Education for the Handicapped, U. S. Office of Education. They collect instructional materials and aids such as braille books, test kits, and tapes and recording devices. The centers also engage in research and development aimed at devising improved teaching materials for the handicapped. Institutes and workshops are held at the centers to familiarize teachers with the use of special educational materials. Handicapped children and youth to be served by centers include the mentally retarded, emotionally disturbed, crippled, speech-impaired, deaf, and visually handicapped.

The centers in operation are listed below. Correspondence should be sent c/o the "Special Education Instructional Materials Center."

Center	Region Served
1. Michigan State University Room 218, Erickson Hall East Lansing, Mich. 48823	Michigan Indiana Ohio
2. University of Wisconsin 2570 University Avenue Madison, Wis. 53706	Wisconsin Minnesota
3. American Printing House for the Blind 1839 Frankfort Avenue Louisville, Ky. 40206	National

	Center	Region Served
4.	Colorado State College Greeley, Colo. 80631	Colorado Montana Wyoming New Mexico Utah
5.	Department of Special Education Superintendent of Public Instruction 316 South 2nd Street Springfield, Ill. 62706	Illinois
6.	University of Texas 304 West 15th Street Austin, Tex. 78701	Texas Louisiana Arkansas Oklahoma
7.	University of South Florida Tampa, Fla. 33620	Florida Alabama Georgia Mississippi S. Carolina
8.	University of Oregon 1612 Columbia Street Eugene, Oreg. 97403	Oregon Alaska Hawaii Idaho Washington
9.	University of Kentucky 641 S. Limestone Street Lexington, Ky. 40506	Kentucky Tennessee N. CArolina West Virginia
10.	University of Southern California 17 Chester Place Los Angeles, Calif. 90007	California Nevada Arizona
11.	Boston University School of Education 765 Commonwealth Avenue Boston, Mass. 02215	Massachusetts Connecticut New Hampshire Maine Vermont Rhode Island
12.	George Washington University Department of Special Education 820 20th Street, N.W. Washington, D. C. 20006	District of Columbia Delaware Maryland New Jersey Pennsylvania Virginia

	Center	Region Served
13.	University of Kansas School of Education Lawrence, Kans. 66044	Kansas Iowa Missouri Nebraska N. Dakota S. Dakota
14.	New York State Department of Education Bureau for Physically Handicapped Children Albany, N. Y. 12201	New York State

The other resource is the Eric Clearinghouse on Exceptional Children. The address is 1201 Sixteenth Street, N. W., Washington, D. C. 20036. This is a national clearinghouse to organize and disseminate information related to education of children and youth who require special services. "EriC ExCerpt" currently published as a department of Exceptional Children, is reprinted for special distribution on a complimentary basis. Individuals in school units will be placed on the mailing list upon request.

In summary, creativity, not project procedure, is the basic ingredient in programs. However, the proper use of consultants and resources can be the difference between merely solving an immediate problem and providing an effective contribution to special education through better evaluation and reporting procedures.

When a project is completed there are the usual final reports to be made. In addition to or as a part of these reports, materials should be prepared in a variety of formats to inform those interested in the project for a variety of reasons. The gathering and producing of media should be a part of the over-all plan and should be gathered systematically as were the data. The next chapter suggests different approaches to reporting and disseminating findings about a project.

Chapter VII

REPORTING AND DISSEMINATION

The process of reporting and dissemination may be summarized into one word: communication. However, this must be effective and available communication. Some persons believe that reporting is just bringing together statistics and data. Then, it is another's responsibility to interpret and apply what has been learned. No one is in a better position to report and disseminate information to other practitioners than those directly involved in the new approach. Such persons should be in the best position to identify and record the relevant information of greatest significance to their colleagues. Reporting and disseminating information is meaningful ways is a necessary responsibility for anyone undertaking new programs.

Necessity for Evaluation

There are several purposes for carrying on studies and evaluating and reporting the results. One is to determine if the results are favorable enough to warrant continuing the new approach into a similar situation. This might be in the same classroom, with the same teacher, same equipment and materials but, with a new group of youngsters. Perhaps the decision to be made is whether the new idea might be attempted with equal success in another neighborhood.

Another need is to acquaint other schools with the results of an experience and to assist them in deciding whether or not to try the new approach. The purpose for pilot and exemplary projects is to

spread, as widely as possible, ideas which have demonstrated their merit and worth. Thus, a clear statement of what happened (when, where, to whom, and with what effect) is necessary to guide those responsible for the new development.

In either case, sufficient data and information need to be available about the initial trial in order to duplicate the experience to ensure equal or greater success.

Purposes Served

There are several purposes which reporting might serve. First, provide sufficient information so that the same individual or other persons would be aware of where modification and changes might be made in order to improve the project. Thus, the evaluation report would serve as a means of feedback for gaining greater effectiveness from a similar effort.

Second, orient newcomers in order to interest them in pursuing the idea further. In such cases, the nature of the report would generally be in some audiovisual format acquainting uninformed individuals or groups with the general purpose, mode of operation and evidence of success of the current project. The function of the reporting in this instance would be to stimulate interest and provide motivation to examine the idea in greater detail for possible application to another situation.

A third purpose of reporting would be to give sufficient detail to an outsider so that he could decide if it would work in his situation. For this purpose, specific information about the students and what was done to them should be included.

Reporting procedures should be of such a nature, therefore, that these three purposes and perhaps others could be served. The same material might suffice for all of these purposes if properly conceived and developed.

Method of Reporting and Disseminating

Often reporting and disseminating have been thought of as merely "paperwork." This is obviously untrue when put in the context of communication. There is a variety of forms in which reports might be developed which could assist greatly in promoting new practices.

1. Visitation. Educators seem to be particularly impressed by visitation to actual projects. To "go and see" is an expensive and time consuming activity but has been found to be particularly useful in promoting and initiating new projects. If a project is one to which people are likely to come to visit, their needs should be anticipated. Administrators wish to visit with administrators and teachers wish to observe and talk with teachers. Visitors may also wish to observe and interrogate students and their parents. Unless these matters are considered carefully, visitation can be chaotic and unprofitable. Therefore, one way of disseminating information is to arrange for visitors to be systematically involved in observation and discussion with key people. They thus gain the necessary insights to make valid judgments.
2. Reports. Written reports are a necessary adjunct to other kinds of information. It is probably true that the usual verbal and statistical reports have not changed very much practice. It

would be useful if some standard format could be developed such as that used in reporting Title VI programs in the State of Oregon. (See Appendix reference to IMPACT of the Title VI Programs in the State of Oregon prepared under the direction of the State Department of Education by the Teaching Research Division.)

The outline follows:

Project Title

Type

Member

Funding Allotted

Background and Rationale

Objectives

Methodology

Evaluation

Results

Written reports can be made much more interesting and worthwhile if graphs, cartoons and illustrations are included in the text. Meaningless tables and other data can often be transformed into easily interpreted and useful information.

In addition to visuals added to the text, charts, visual displays or transparencies might aid in the understanding and interpretation of the material.

3. Use of Media in Reports. It has been found that carefully prepared audiovisual displays greatly assist in the portrayal of newer instructional programs. An attempt to "show it like it is" characterizes mediated presentations. These are particularly useful for introducing and orienting individuals to new

ideas as discussed above. Among the various mediated approaches being utilized currently are the following:

a. Tape-slide kits. These are quite inexpensive and yet easy to develop and assemble. New low cost 35mm cameras and high speed film make it inexpensive and feasible to capture classrooms and events in their natural setting. Slides accompanied by an explanatory narrative make a simple set-up for display and distribution.

b. Eight mm film. Many schools are utilizing the 8mm movie camera to capture significant aspects of a new program. Again new cameras make possible highly flexible and meaningful motion pictures. Certain manufacturers are also advertising the use of a cassette tape recorder which, when synchronized with the 8mm film, makes feasible a low cost sound motion picture.

c. Audio and video tape. Both of these recorders are being utilized for evaluation and reporting purposes. By use of either the reel to reel or the newer cassette recorder, it is possible to capture the emotionally charged expressions of the youngsters, the concern or satisfaction of their parents, and the trained judgments of the teachers and administrators. For some purposes the video tape recorder may have an advantage over the audio type, especially where it is worthwhile to include movement. With many schools now having available portable video tape recorders, this method

is a practical manner of disseminating information. Difficulties may be encountered in having sufficient light available and in obtaining good audio recordings.

Conclusion

Project directors should anticipate disseminating information in a variety of forms. By including suggested formats in the original proposal, information can be systematically captured during the time that the activity is in progress. At the conclusion of the project, it is carefully organized and interpreted to serve the various general and specific audiences. Only by proper reporting and dissemination of information can a project director feel that he is fulfilling all of his responsibilities to the project. And only then will others in the educational community be aware of modifications, interpretations and applications of current projects designed to provide the best education possible for our children.

Appendix A

REFERENCES ON EVALUATION

In this section an attempt has been made to be highly selective in regard to the kinds of references which are listed. Each citation is followed by a brief discussion of the contents of the publication to make it of most use to those involved in various capacities related to evaluation

Bibliography

Annas, P. A. and others. Guide to assessment and evaluation procedures, the New England educational project. 1966. pp. 1-37.

Prepared to guide local school systems in evaluating ESEA and other products, this workbook gives a step-by-step process for evaluation. A glossary of terms is included. *

Educational Product Report, Vol. 2 No. 5, "Educational Evaluation: Theory and Practice," Educational Product Report, New York, N. Y., February, 1969, pp. 1-48.

This issue is devoted to the various problems concerned with evaluation. One chapter deals with a preliminary instrument on assessing curriculum materials and another with a product study. Three chapters deal with the question of evaluation as contrasted with experimental research and scientific studies. These three chapters just referred to will be of particular interest to those who are concerned about whether or not evaluation differs from research.

Eidell, Terry L. and Klebs, John A., Annotated Bibliography on the Evaluation of Educational Programs, November 1968. ERIC Clearinghouse on Educational Administration, University of Oregon, Eugene, Oregon, pp. 1-15.

This publication identifies significant literature found in "Books, Pamphlets, and Papers" and "Journal Articles" dealing with evaluation. A brief statement is made regarding significant points covered in the item cited. For example, the narrative in this section which is followed by an asterisk (*) was taken from the publication. This publication should be studied by those who wish to go into evaluation in some detail or depth.

Grobman, Hulda, Evaluation Activities of Curriculum Projects, Number 2, AERA Monograph Series on Curriculum Evaluation, Rand McNally & Company, Chicago, 1968, pp. 1-136.

Dr. Hulda Grobman has been very much involved in the development of BSCS (new biology) program. Chapters 1, 2, and 4 will be of particular interest to those involved in evaluation as described in this publication. Chapter 1 considers the concept of evaluation (similar to that proposed in this publication) with a final section dealing with "Project Evaluation contrasted with other Educational Research." In Chapter 2 on "What to Evaluate" Dr. Grobman considers many of the same items presented in Chapter III of this publication such as the evaluation of the "process" and the "product." Chapter 4 on "How to Evaluate" is particularly helpful in considering the instruments for gathering data. Her chapter considers many of the items and techniques considered in this publication in Chapter IV entitled "Data Collection."

A number of actual cases of curriculum evaluation are presented so that the reader can make applications of what Dr. Grobman discusses.

Guba, Egon G., The Failure of Educational Evaluation. Educational Technology, A Special Report, May, 1969, pp. 29-38.

A discussion of need for change from traditional methods of evaluation to the provision of sensible alternatives. Guba discusses "Some Clinical Signs of Failure" in traditional evaluation approaches, "The Basic Lacks" along with some suggestions for "Where Next?"

Impact of the Title VI Programs in the State of Oregon. Prepared under the direction of the State Department of Education by Teaching Research Division, Oregon State System of Higher Education. October, 1968, pp. 1-168.

A must for anyone interested in evaluating programs for handicapped children. After a brief introduction in which among other things, a Title VI administrative flow chart for the state level is presented, there follow project descriptions. These project descriptions follow the outline presented in Chapter VII. This publication suggests the desirability of establishing a uniform format for reporting. This publication is the best single volume available to actually include a variety of projects for handicapped children which calls for a range of objectives, instruments and methods.

Lawrence, Teresa M., Editor, Teaching Exceptional Children, NEA, 1201 Sixteenth Street, N. W., Washington, D. C.

Teaching Exceptional Children is published four times a year and is an example of a publication with articles of a practical and functional nature which are written to improve practice. Although not exclusively devoted to evaluation it is a good example of a style of writing and communication intended to assist those involved in decision making at classroom levels.

O'Keefe, Kathleen Gnifkonski, Methodology for Educational Field Studies, Evaluation Center, The Ohio State University, College of Education, Columbus, 1968, pp. 1-203.

Dr. O'Keefe considered ways of gathering valid data and information in connection with field studies. Since most curriculum projects conducted in actual classroom situations might be classified as field studies, her dissertation has much to offer in that she considers such matters as expert opinion, as derived from the legal profession and how much judgments might be made valid when applied to educational projects. When external evaluation is called for in a project it usually has elements of the expert-witness idea in law. There are many other useful ideas considered in this study which should be very helpful in evaluation.

Sorenson, G. A new role in education: The Evaluator. UCLA Evaluation Comment, 1 (January 1968), pp. 1-4.

Sees the evaluator in education as a new professional who bridges the gap between the university educational laboratory and the teaching field, helping teachers and administrators to define their goals, and to appriase their pupils making possible the development of instructional programs which will result in maximum learning for each student.*

Stake, R. E. The countenance of educational evaluation. Teachers College Record, 68 (April 1967), pp. 523-540.

Emphasizes the need for both descriptive and judgmental evaluation of educational programs, requiring analysis of three bodies of information, distinguished as antecedent, transaction, and outcome data. Matrix and flow charts illustrate the evaluation process.*

Stufflebeam, D. L. A depth study of the evaluation requirement. Theory into Practice, 5 (June 1966), pp. 121-133.

In a special issue devoted to the Elementary and Secondary Education Act of 1965, evaluation is presented as a corollary of each of the four primary phases of the change process: research, development, diffusion, and adoption. Process and decision functions are illustrated by a feedback control loop with steps outlined for the evaluation of local, state, and federal project operations. Nine ways to improve evaluation of educational programs are recommended.*

Stufflebeam, D. L. Toward a science of educational evaluation. Educational Technology, 8 (July 30, 1968), pp. 5-12.

Defines evaluation as the provision of information through formal means to serve as rational basis for making judgments in decision

situations. Evaluation methodology includes the collecting, organizing, analyzing, and reporting of information, in addition to the initial focusing of the evaluation. Four strategies for evaluating educational programs (context, input, process, product) are distinguished by objective, method, and relation to decision making.*

Tyler, Ralph, Gagne, Robert, and Scriven, Michael. Perspectives of Curriculum Evaluation, Number 1, AERA Monograph Series on Curriculum Evaluation, Rand McNally & Company, Chicago, 1967, pp. 1-102.

In an introductory chapter Robert E. Stake discusses why achievement tests are not appropriate for evaluation of new curricula and instructional innovation. The chapter by Scriven provides an outline of some of the major aspects of any program to which attention should be given in evaluation.